gressing were 2 813 and 2 703 USD for Docetaxelum and Gefitinibum, respectively. Costs of 1 treatment course (21 days) of Pemetrexed were in 1,9 times higher than Gefitinibum. Therapy with Gefitinibum increase of life expectancy on 6 months and on 0,226 QALY in comparison with Pemetrexed. Costs of 1 month without progression for Gefitinib were in average 1,8 times less (2 699 and 5 016 USD for Gefitinib and Pemetrexed, respectively). Therapy with Gifinitib allows to decrease the direct medical costs on 19%. **CONCLUSIONS:** Therapy with Gifinitib as the second line therapy in patients with non-small cell lung cancer is effective from clinical and economical point of view.

PCN197
THE IMPACT OF PHARMACEUTICAL INNOVATION ON PREMATURE CANCER MORTALITY IN PORTUGAL
Lichtenberg F[1], Laires PA[2]
[1]*Columbia University, New York, NY, USA,* [2]*Merck Sharp & Dohme, Oeiras, Portugal*
OBJECTIVES: Reducing premature mortality is a crucial public health objective. A widely used measure of premature mortality is years of potential life lost before a given age (e.g. age 80). The aim of this study was to analyze the effect that pharmaceutical innovation had on premature cancer mortality in Portugal during the period 2002-2010. **METHODS:** The analysis was performed by using a difference-in-differences research design based on longitudinal disease-level data, in order to investigate whether the diseases that had a larger increase in the number of new available drugs (i.e. more pharmaceutical innovation) had larger declines in years of potential life lost before age 80 in Portugal. Herein, we present the results specific for cancer disease. This methodology controls for the effects of macroeconomic trends and overall changes in the healthcare system. Official databases were used, such as the Eurostat for the premature mortality data. **RESULTS:** Drugs registered during the period 1994-2002 reduced the number of years of potential life lost to cancer before age 80 in 2010 by 26,645. The estimates indicate that if no drugs had been registered during 1994-2002, premature mortality from cancer would have increased by about 9%. The 2010 expenditure on cancer drugs registered during 1994-2002 in Portugal was € 148,670,718. Thus, the estimated cost per life-year before age 80 gained from previous pharmaceutical innovation was €5,580 (reduction in hospital costs due to the impact of pharmaceutical innovation on cancer morbidity were not accounted). **CONCLUSIONS:** These findings indicate that pharmaceutical innovation contributed with a significant reduction in the premature mortality caused by cancer in Portugal. Moreover, the estimated cost per life-year is well below even the lowest estimates of the value of a life-year saved.

PCN198
CANCER AND PREMATURE MORTALITY IN IRELAND: AN EMPLOYER'S PERSPECTIVE FOLLOWING THE FRICTION COST APPROACH
Hanly P[1], Pearce A[2], Sharp L[3]
[1]*National College of Ireland, Dublin, Ireland,* [2]*National Cancer Registry Ireland, Cork, Ireland,* [3]*Newcastle University, Newcastle, UK*
OBJECTIVES: Cancer is the second leading cause of death in Ireland accounting for approximately 30% of all deaths. Of these, almost a third arise in those of working age. As well as the public health burden, cancer also imposes economic costs on society in general and employers in particular. This study measured the productivity costs associated with cancer-related premature mortality from an employer's perspective in Ireland. **METHODS:** Data was abstracted on the average annual number of cancer deaths between the ages of 15 and 64 in Ireland during 2005-2009 by 5-year age group and sex from the World Health Organization Cancer Mortality Database. The friction cost approach was used to value all premature cancer deaths (and those for the ten most common cancer sites in males and females), over a defined friction period (base-case = 79 days), by gross gender- and age-specific wages, adjusted for labour market characteristics. In sensitivity analyses estimates were adjusted for 'multiplier effects' associated with modern work practices and for changing labour market conditions. **RESULTS:** The all-cancer premature mortality cost was €14.3 million in 2009. Costs were more than two-fold higher for males than females. Base-case estimates were sensitive to changes in labour markets conditions and decreased by 42% following adjustment for increased unemployment levels (from 4.6% to 12.7%). Productivity costs were higher in settings with modern team-based working practices rising by almost 30% in the case of females (17% for males). **CONCLUSIONS:** Employers are becoming increasingly aware of the adverse economic effects of illness. Our results reveal the magnitude of productivity costs associated with cancer-related premature mortality from an employer's perspective in Ireland. These results provide a sense of the types and magnitude of costs that are explicitly excluded from economic evaluations that fail to encompass a broader social perspective.

PCN199
POTENTIAL SAVINGS TO EU ECONOMY DUE TO RETURNING TO WORK OF CANCER SURVIVORS WITH A DISABILITY
Macioch T, Hermanowski TR
Medical University of Warsaw, Warsaw, Poland
OBJECTIVES: The number of cancer survivors is growing due to progression in diagnosis and treatment. Approximately half of cancer survivors are at working age, however many of them do not return to work. One of the reasons is a disability of cancer survivors. Although cancer related disability is usually more severe compared to disability due to other diseases, real-life data showed up to 85% of disabled cancer survivors may return to work after comprehensive rehabilitation programs. The aim of this study was to estimate potential savings to EU economy due to return to work of disabled cancer survivors. **METHODS:** Data on indirect cost of a cancer related disability were calculated based on Luengo-Fernandez at al. study and our own estimation of a contribution of disability to indirect cost related to morbidity. Disability structure i.e. percentage of a partially disabled cancer survivors, was adopted from Polish Social Insurance Institution data (we assumed that population with complete disability or inability for independent existence can't return to work). Presenteeism and absenteeism in cancer survivors were adopted from our previously published studies. **RESULTS:** We estimated the indirect cost of cancer due to disability in EU at the amount of 4223.2 million EUR. However partial disability account for approx. 20-25% of this sum and reduces potential savings to the amount of 844.6–1055.8 million EUR. Further correction, taking into account the efficacy of rehabilitation programs (up to 85%), reduces this savings to 717.9–897.4 million EUR. Considering the loss of productivity due to sickness absence and presenteeism measured in cancer survivors' population (19.1% and 37.3% respectively) potential savings for EU economy due to return to work of cancer survivors with a disability are calculated at the amount of 364.2-455.2 million EUR. **CONCLUSIONS:** Indirect cost of cancer related disability can be reduced, but probably only to a small extent.

PCN200
PREDICTING FUTURE NEED OF RESOURCES FOR ADENOMA SURVEILLANCE FROM A POPULATION-BASED COLORECTAL CANCER SCREENING PROGRAM THROUGH DISCRETE EVENT SIMULATION
Comas M[1], Andreu M[2], Guerrero-Ludueña RE[2], Bessa X[2], Balagué F[3], Castells X[1]
[1]*IMIM (Hospital del Mar Medical Research Institute); Red de Investigación en Servicios de Salud en Enfermedades Crónicas (REDISSEC), Barcelona, Spain,* [2]*IMIM (Hospital del Mar Medical Research Institute), Barcelona, Spain,* [3]*Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Hospital Clínic, Barcelona, Spain*
OBJECTIVES: European guidelines recommend colorectal cancer screening of average-risk population. Besides cancer, adenomas deserving surveillance through colonoscopy, are found. Our objective was to estimate the resources needed to undergo the recommended surveillance of adenomas found under a population-based colorectal cancer screening program. **METHODS:** A previous discrete-event simulation model representing a colorectal cancer screening program for a target population of women and men aged 50-69 was used. The underlying conceptual model was based on the European Guidelines for both the screening process and follow-up after adenoma removal. Resources needed according to findings of the colonoscopy at screening were the following: genetic tests for polyposis; high-complexity colonoscopies for high-risk adenomas and polyposis, non-complex colonoscopies for intermediate-risk adenomas; visits with gastroenterologists for high-risk adenomas and polyposis and with general practitioners for intermediate-risk adenomas. Parameters were estimated from the Colorectal Cancer Screening Program of Barcelona and follow-up colonoscopy results from the literature. A 20-year horizon starting in 2015 was simulated. The model included population's ageing. Results were rescaled to the population of the whole territory (1.7 million target population). **RESULTS:** The predicted number of colonoscopies at screening was 19,275, 18,829 and 20,988 for years 2015, 2024 and 2034, respectively. The predicted numbers of non-complex and high-complexity colonoscopies were 9,887 and 7,760 in 2024 and 14,362 and 9,099 in 2034, respectively. The expected number of gastroenterologist and general practitioner visits were 9,137 and 15,154 in 2024 and 10,494 and 19,989 in 2034, respectively. The number of genetic tests was 545 and 659 for years 2024 and 2034, respectively. **CONCLUSIONS:** Implementing a population-based colorectal cancer screening program represents an increased demand of resources for surveillance of intermediate and high-risk adenomas found under the program. Results of the simulation model will allow distributing the resources geographically and predicting future need when the screening program is extended to all the territory.

PCN201
EVALUATION OF RESOURCE UTILIZATON FOR CHEMOTHERAPY INDUCED NAUSEA AND VOMITING (CINV) IN PATIENTS TREATED WITH ANTHRACYCLINE+CYCLOPHOSPHAMIDE (AC) FOR SOLID CANCERS WITH AND WITHOUT NK-1 BASED REGIMENS
Lyman GH[1], Lal L[2], Radtchenko J[3], Harrow B[4], Schwartzberg L[5]
[1]*Fred Hutchinson Cancer Research Center, Seattle, WA, USA,* [2]*Cardinal Health, Missouri City, TX, USA,* [3]*Cardinal Health, Dallas, TX, USA,* [4]*TESARO, Inc., Waltham, MA, USA,* [5]*The West Clinic, Memphis, TN, USA*
OBJECTIVES: This study assesses frequency of CINV events and resource utilization in patients treated with AC for solid cancers **METHODS:** The study evaluated a randomly selected cohort of patients from Inovalon's MORE2Research Edition claims database that includes longitudinal data from US health plans. Patients who received AC regimens on first day of each cycle in first line of therapy during last six months of 2013 were included. Total CINV events and CINV related and total hospital/ER visits were captured for cycles of interest in first line and were analyzed using chi-square to determine statistical differences between patients on NK-1 regimens and non-NK-1 regimens. **RESULTS:** The study cohort consisted of 353 patients, 97% female, 60% with Commercial insurance, and 95% with breast cancer, with mean age of 53.1 and Charlson comorbidity score of 6.0. NK-1 based CINV regimens were utilized in 73% of the patients in the first chemotherapy cycle. Rescue anti-emetics were used by 53% of patients on NK-1 regimens versus 60% of patients on non NK-1 regimens. Frequency of CINV events was 41% for NK-1 versus 45% for the non NK-1 group. Frequency of CINV related ER visits was 5% in the NK-1 group versus 12% in the non NK-1 group, p=0.03. CINV related hospitalizations were 3% in the NK-1 group versus 4% in the non-NK-1 group. Total ER visits were lower in the NK-1 group compared to the non NK-1 group, 12% versus 19%; total hospitalizations were also lower in the NK-1 group compared to the non NK-1 group, 8% versus 13%. **CONCLUSIONS:** For patients on highly emetogenic AC based chemotherapy regimens, NK-1 treatments result in decreased rates of CINV events and resource utilization, with CINV related ER visits statistically lower. Further studies are warranted to determine if results are generalizable to other cancer regimens and diagnoses.

PCN202
RESOURCE UTILIZATION IN PATIENTS WITH ADVANCED MELANOMA IN FRANCE
Flinois A[1], Sassolas B[2], Leccia M[3], Levy-Bachelot L[4], Godard C[5], Montin R[4], Bedane C[6], Pacou M[7]

[1]Kantar Health, Montrouge, France, [2]Hôpital Morvan - CHU de Brest, BREST, France, [3]Hôpital Albert Michallon - CHU de Grenoble, LA TRONCHE, France, [4]MSD France, COURBEVOIE, France, [5]MSD France, Courbevoie, France, [6]Hôpital Dupuytren - CHU de Limoges, LIMOGES, France, [7]Amaris, Paris, France

OBJECTIVES: The objective of the AMEL study was to describe healthcare resource utilization (HCRU) among advanced melanoma patients according to the treatment they received in order to assess the mean cost per line of therapy according to the treatment received. **METHODS:** The study was a retrospective observational study using medical records. 33 physicians participated in the research. Each physician documented all of their patients diagnosed with advanced cutaneous melanoma between January 1st 2012 and October 31st 2012. Resource use related to hospitalizations, outpatient visits, radiotherapy and imaging tests were collected throughout the patient pathway, from diagnosis to end of the data extraction or death, whichever occurred first. The costing was based on ENCC reference costs. **RESULTS:** After exclusion of the patients whose treatment was part of a clinical trial, HCRU could be assessed for 220 patients who received 1st line treatment, 144 2nd line and 67 3rd line. Hospital consumption increased together with the line of therapy. The proportion of patients experiencing at least one hospitalization was 46.4%, 50.7% and 62.7% in 1st, 2nd and 3rd line and the mean length of stay was 14,39, 15.6 and 17.3 days respectively. In 1st line, the main cause of hospitalization was treatment administration (41.2% of patients) while it was palliative care in 2nd and 3rd line (52.1% and 54.8%). Hospitalization due to treatment toxicities occurred in 18.6% of first line patients, with a mean length of stay of 20.21 days and was less frequent in 2nd and 3rd line (6.8 and 9.5%). After valorization, the mean hospital cost per patient was 1,526€ in 1st line, 2,098€ in 2nd and 2,250€ in 3rdline. **CONCLUSIONS:** Health care consumption, including hospitalization, increased together with evolution of the disease, with the most costly period being the "terminal state".

PCN203

RESOURCE AND COST SAVINGS DUE TO SUBCUTANEOUS VERSUS INTRAVENOUS ADMINISTRATION OF ONCOLOGY THERAPIES: CASE STUDIES WITH RITUXIMAB (MABTHERA) AND TRASTUZUMAB (HERCEPTIN)

Walzer S[1], Era S[2], Profico A[2], Canciani M[3], Farina M[3], Ponzetti C[4]
[1]MArS Market Access & Pricing Strategy GmbH, Weil am Rhein, Germany, [2]Roche Spa, Monza (MB), Italy, [3]EmmEffe S.r.l. Management & Formazione, Milano, Italy, [4]Sanitario Gruppo Policlinico di Monza, Montalto Dora, Italy

OBJECTIVES: Subcutaneous versions of different oncology therapies are available since few years for which the patient-relevant and hospital benefits have not been assessed in real life. **METHODS:** In order to analyze the impact of subcutaneous administrations for rituximab or trastuzumab in comparison to the respective intravenous mode a primary research in Italy was executed. The study's primary objectives were to analyze the resource and cost implications from different perspectives (patient, medical staff) in real world. The route of administration was discussed and aligned with the participating centers in order to capture all relevant therapy parts. After the successful execution of a pilot study 33 centers in 6 regions in Italy were recruited to participate. **RESULTS:** Significant time savings are achieved with the subcutaneous mode through significantly lower patient preparation time including less time preparing the actual dosing for each individual patient. The total time difference is 3.3 hours with rituximab in hematology (NHL) which adds up to 23.55 hours for a full course of treatment per patient (overall preparation time: 40.1 hours intravenous [95%CI: +0.47] vs 16.6 hours subcutaneous [95%CI: +0.2]). In early breast cancer (trastuzumab) the time saving is 3.3 hours for the first cycle and the total time saving for patient preparation is 17.2 hours (overall preparation time: 38.8 hours intravenous [95%CI: +9.42] vs 21.6 hours subcutaneous [95%CI: +9.9]). Furthermore in both settings the time of medical stuff was reduced and could hence be used elsewhere. Finally in case wastage was experienced with intravenous therapies there were significant reductions in wastage through the subcutaneous administration (93% to 100%) with cost savings of 6'057 € with rituximab subcutaneous and 28'399 € with trastuzumab subcutaneous administration, respectively for the full treatment course. **CONCLUSIONS:** There are significant resource and cost savings due to subcutaneous administration with rituximab and trastuzumab in Italy.

PCN204

DESCRIPTIVE EPIDEMIOLOGY AND TREATMENT STRATEGIES USED IN MULTIPLY MYELOMA IN THE SLOVAK REPUBLIC. RESULTS FROM THE CROSS-SECTIONAL SURVEY IN THE HAEMATOLOGY-ONCOLOGICAL CENTERS

Ondrusova M[1], Psenkova M[1], Suchansky M[1], Chudej J[2]
[1]Pharm-In Ltd, Bratislava, Slovak Republic, [2]University hospital Martin, Martin, Slovak Republic

OBJECTIVES: The latest official national data on epidemiology of multiply myeloma (MM) are available for year 2008. Estimated incidence for 2015 represents in both sexes 311 cases (age-standardized (ASR-W) incidence 3.1/100,000), mortality 176 cases (ASR-W 1.6/100,000), prevalence 1,715 patients. The objective of this cross-sectional survey was to define prevalence and treatment strategies used in MM patients according to the treatment lines and provide a basis for the budget impact analysis (BIA). **METHODS:** Data on treatment of 656 MM patients from 7 MM-centers in 2013 from whole Slovakia were collected and analyzed. Continuous variables were calculated using standard descriptive statistics methods **RESULTS:** 86.9% of patients were cross-sectionally on active treatment. In the 1st clinical stage (according to Durie and Salmon classification) were 13.03% of patients, in the 2nd clinical stage-32.07%, in the 3rd clinical stage-54.09%. The treatment strategies were as followed: In the 1st line-36.34% of patients underwent BMT, outside them 80.53% were on bortezomib regimen, mean-time to progression represented 2.31 years. In the 2nd line-22.83% (out of 36.34%) of patients underwent re-transplant, outside them 68.50% were on lenalidomid regimen, mean-time to progression was 1.65 years. In the 3rd line-42.84%/21.71%/12.97% of patients were on bortezomib/lenalidomid/bendamustine regimens, mean-time to progression represented 1.29 year. 40.88% of all registered patients were in 2013 treated by the 4th line, 90.45% out of them had previously been treated by bortezomib and/or lenalidomid regimen and cross-sectionally 45.07%/24.73%/8.51% were treated by lenalidomid/bortezomib/conventional chemotherapy regimens, mean time to progression was 0.81 year. In the 5th line-34.19%/18.36%/18.36% of patients were treated by lenalidomid/bortezomib/conventional chemotherapy regimens, mean-time to progression was 0.88 years. In the 6th line-60.20% of patients were treated by conventional chemotherapy. **CONCLUSIONS:** This cross-sectional survey determined the prevalence and treatment strategies of MM patients in Slovakia according to the treatment lines.

PCN205

DIRECT COSTS AND HEALTHCARE RESOURCE USE ASSOCIATED WITH ADVANCED MELANOMA IN PORTUGAL

Lopes F[1], Passos MJ[2], Raimundo A[3], Laires PA[1]
[1]Merck Sharp & Dohme, Oeiras, Portugal, [2]Instituto Português de Oncologia de Lisboa Francisco Gentil E.P.E, Lisbon, Portugal, [3]Instituto Português de Oncologia do Porto Francisco Gentil E.P.E, Oporto, Portugal

OBJECTIVES: To estimate health care resource use (HCRU) associated with the advanced melanoma management in Portugal and to calculate the resulting direct medical and non-medical costs. **METHODS:** An expert panel with 6 clinicians from the main Portuguese centers treating patients with advanced melanoma was created and assessed to estimate HCRU associated with the disease management. A two-stage modified Delphi technique was adopted. During the 1st round experts answered to a questionnaire concerning resource consumption associated with different phases of disease management. At the 2nd round experts discussed and validated the mean results obtained from the questionnaires, during a consensus meeting. Phases of disease considered were: treatment initiation, progression free, post-progression and terminal care. HCRU during progression free phase was estimated for two different subsets of patients, according to their previous treatment experience: ipilimumab-naïve patients and ipilimumab previously treated patients. Medical appointments, laboratory tests, imaging examinations, hospitalizations, radiotherapy/radiosurgery and concomitant medications were the resources considered. HCRU resulting from adverse events management was not included. Costs for each phase were obtained by multiplying mean estimates of HCRU by unit costs according to official sources. Oncology drugs costs were not included during the treatment phase. **RESULTS:** Elicited costs per disease management phase were the following: 893.4 € for treatment initiation, 1280.4€/3 weeks and 1487.5€/3 weeks for treatment phase, respectively for ipilimumab-naïve and ipilimumab previously treated patients. For the BSC phase the cost estimated was 1668.7 €/month and the total terminal care cost was 5920.8€. **CONCLUSIONS:** Inpatient costs assumed major role during all phases (except treatment initiation). Patient monitoring through medical appointments, laboratory tests and imaging examinations had a higher share of resource consumption during treatment phase than for patients on BSC. The results from our research are of utmost importance to support the cost-effectiveness evaluation of new advanced melanoma treatment strategies.

CANCER – Patient-Reported Outcomes & Patient Preference Studies

PCN206

SYSTEMATIC REVIEW OF ADHERENCE TO ONCOLOGICAL TREATMENTS

Polanco C
Merck, Madrid, Spain

OBJECTIVES: Adherence to oncologic treatment is a key factor to improve the survival of oncologic patients. Several clinical trials reveal non-adherence in these patients is common, affecting the health results negatively. The objective is to review the published evidence about adherence to oncologic treatment. **METHODS:** Systematic review of published articles in PubMed about adherence to oncological treatments (January 2005-December 2014) in the European Union. Article selection by two independent investigators was based on title and abstract. In addition to the incapability to meet other inclusion criteria, the little quality of the results was ground for exclusion of a single article. Articles were classified according to trial design, type of cancer and adherence measurement method. **RESULTS:** 27 publications were analyzed, in which adherence data was described for nine different types of cancer and breast cancer was the most studied (51.9% of the articles). United Kingdom was the country that carried out the most clinical trials (40.7%). 92.6% of the articles evaluated the adherence of female cohorts and 48.2% evaluated both men and women cohorts. The most employed methodologies to measure adherence were Self-Report, MPR (Medication Possession Ratio) and MEMSTM (Electronic Medication Event Monitoring System). 7.4% of the articles reported adherence results, 48.2% of adherent to treatment patients and 44.4% of both. Adherence ranges fluctuated between 25.9% and 100% while the ranges of adherent patients oscillated between 7.84% and 92%. Age was one of the factors that affected adherence to oncological treatments (patients under 60 and over 75 were less adherent to oncological treatments). **CONCLUSIONS:** Disparity in criteria and measurement methods contributes to the great heterogeneity of adherence and adherent patients published data. The poor adherence levels retrieved confirm the need of implementing healthcare interventions to foster adherence, given its impact on both oncological treatments effectiveness and healthcare systems sustainability.

PCN207

COGNITIVE DEBRIEFING AND USABILITY ASSESSMENT OF THE EORTC QLQ-C30 AND QLQ-BR23 AS PRESENTED ON TABLET AND HANDHELD DEVICES

Skerritt B[1], DeLa Cruz M[1], Lipman K[1], Petersen J[2], Burton J[2], Flood E[1], Patel S[2]
[1]ICON plc, Dublin, Ireland, [2]Genentech, Inc., South San Francisco, CA, USA

OBJECTIVES: Electronic data capture of patient-reported outcomes (ePRO) offers efficiency, greater accuracy and improved compliance vs paper. However, mode equivalence and device usability needs to be demonstrated, per ISPOR ePRO Research